



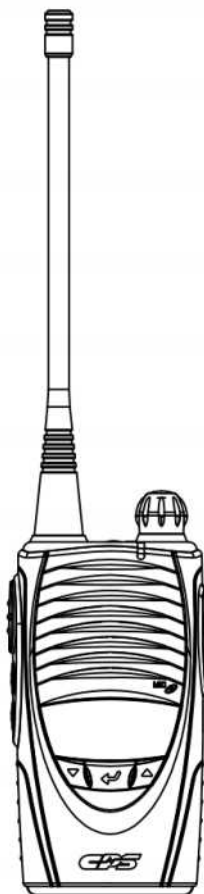
# CP330

VHF/UHF FM

Handheld Transceiver

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Owner's Manual





普思電訊有限公司  
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## 1.1 Introduction

The CP330 Professional combines quality and versatility into a compact, light and portable professional two-way radio with state-of-the-art design and easy-to-use features.

## 1.2 Key Features

- Frequency Range (CP330V/U/P) : 136-174 MHz / 400-470 MHz / 350-390 MHz )
- 512 Channels in 16 Groups
- Built-in 53 CTCSS Tones / 208 DCS Codes
- Voice Compression and Expansion Technology – Delivers strong and clear audio quality through voice processing technology and 4-step squelch control.
- 1 Watt High Power Speaker
- Dual Tone Modulation Frequency (DTMF) Signaling
- 2-Tone / 5-Tone Signaling – Enables private or selective group signaling with up to 30 pre-programmed numbers providing caller identification.
- Scramble function – Ensures message security.
- Adjustable Transmission Power – Helps conserve battery life using low-power output under favorable communications condition.
- 7.4V 2200mAH Li-ion High Capacity Battery – Lightweight lithium-ion battery with extended battery life.
- Voice Activated Transmission (VOX) – Allows for hands-free transmission of message without pressing the PTT button.
- 12.5kHz / 25kHz Selective Channel Spacing
- Channel Scan/Priority Channel Scan – Scans for activity across different communications channels or pre-defined priority channels.
- Extension of Talk Range via Programmable Repeater function
- Monitor function – Enables monitoring of weak radio signals.
- Busy Channel Lockout – prevents the radio from listening to or transmitting over its group.
- Time-Out Timer – Alerts you if the PTT button is keyed for a prolonged period.
- Software Programming/Cloning
- Emergency button – send out emergency signals with user ID when pressed.

- Lone Worker function – Provides added security to remote workers or individuals by automatically sending out emergency signals after a predetermined time lapse without response.
- Remote Radio Stun/Unstun – An administrator can send a signal to stun or unstun a radio (making it incapable for use or returning it to operational use) in the event it is stolen or used illegally.

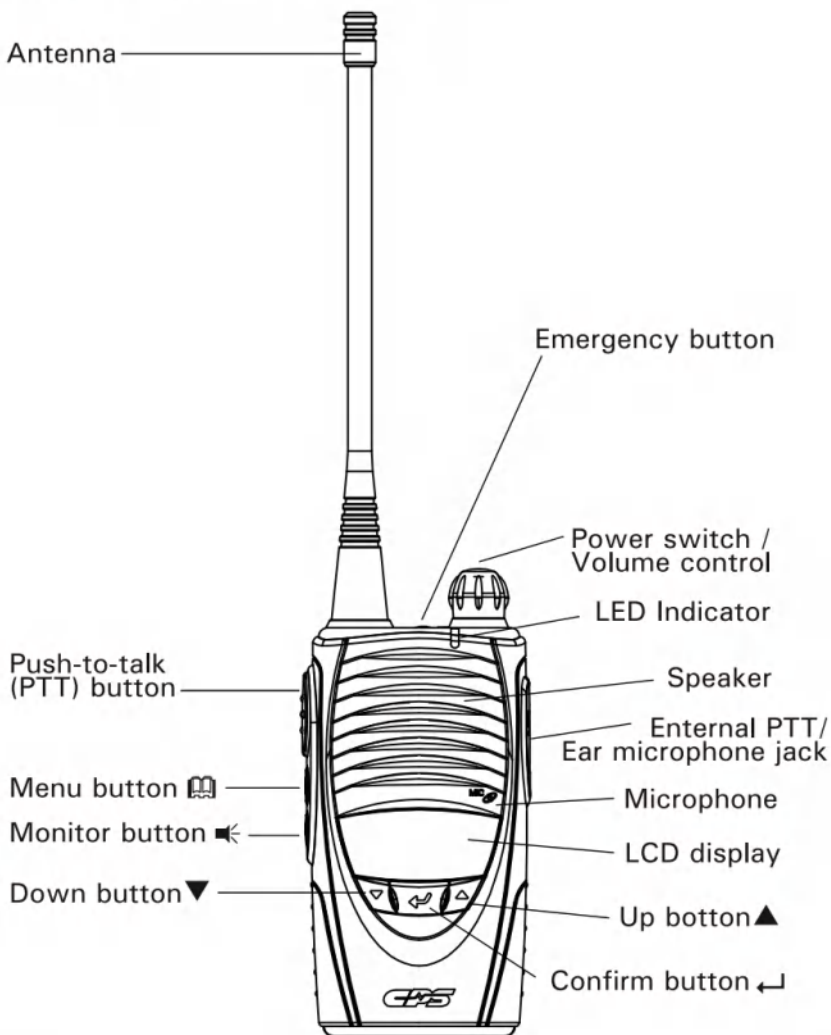
### 1.3 Accessories

- CB33 2200mAH Li-ion high capacity battery pack
- CS33 Rapid charger with stand
- AT33 Antenna
- BC33 Belt clip
- Owner's manual
- Warranty card

### 1.4 Optional Accessories

- EM22C Ear microphone
- PC33 Programming cable
- CC33 Cloning cable
- RC33 Repeater cable
- PS33 Programming software  
(download from <http://www.cps-telecom.com> FREE )

## 2.1 Controls and Indicators



### 2.1.1. Power switch/Volume control

Switch on/off the radio and adjust the volume of the speaker by turning the power knob clockwise/anti-clockwise.

### 2.1.2. Push-To-Talk ("PTT") button

Press and hold the PTT button for transmission.


### 2.1.3. ▲ & ▼ keys

Press ▲ or ▼ to select channels, navigate menu functions, and adjust transmission power.

### 2.1.4. Confirm key ↵




Press ↵ to confirm selection.

### 2.1.5. Menu key

Press and hold  for about 2 seconds to enter the Menu mode, which has the following selection sequence:

ConnP (Companer) > GrouP (Change group) > Id ANI (User ID) > SCrR (Scramble) > SQUELCH (Squelch) > Sound (Key Sound) > H-FrEE (VOX) > LONE-UU (Lone Worker) > Repeat (Repeater)

### 2.1.6. Monitor key

Press  to monitor weak radio signals. Press and hold  for about 2 seconds until a "beep" sound is heard to stay in monitor mode. Press  again to abort and return to Standby mode.

### 2.1.7. Emergency button

When pressed and held for about 2 seconds, a siren will be sounded without transmission (programmable) or distress signals with user ID will be transmitted to other users of the same frequency channel.

### 2.1.8. Ear microphone / Programming cable / Cloning cable connector

### 2.1.9. LED Indicator

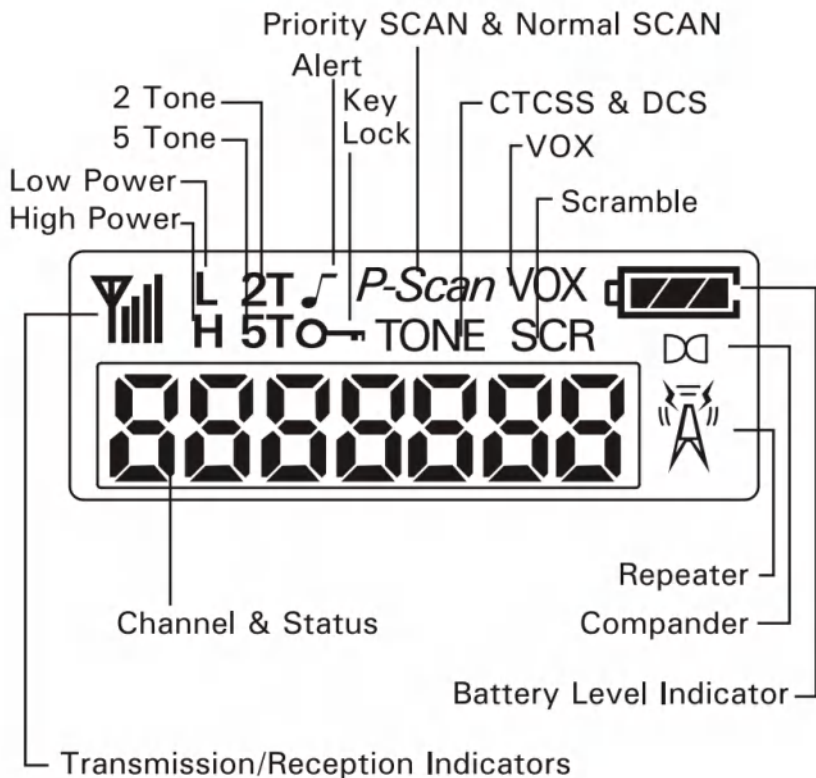
Red : Transmitting

Green : Receiving

Green blinks : CTCSS/DCS error

Red blinks : Low battery level

## 2.2 LCD display





### 3.1 Power On/Off

Switch on the radio by turning the power knob clockwise until the speaker is at a desired volume level. As soon as the power is on, the LCD display becomes lit and shows the user ID if applicable. Switch off the radio by turning the power knob anti-clockwise fully.

### 3.2 Transmission

Press and hold the PTT button while speaking at about 5-10 cm from the microphone for transmission (indicated by the red LED). Release the PTT button to return to the Standby mode.

### 3.3 Reception Selection

The green LED will be on during reception of signals.




### 3.4 Channel

Press ▲ or ▼ to switch channel and a “beep” sound will be heard when a new channel is selected. If only one channel is preset, the channel number will not be changed and a different “beep” sound will be generated. To switch between channels quickly, press and hold ▲ or ▼ until the desired channel is selected.



### 3.5 Transmission Power Adjustment

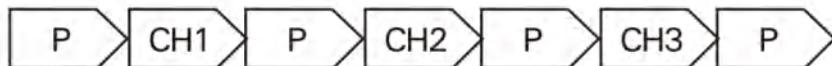
Press the PTT button and ▲ to select high power output “H”. Press the PTT key and ▼ to select low power output “L”.




### 3.6 Channel Scan

While in General mode, press and hold  &  for about 0.5 second to activate the channel scan function. The radio will automatically scan for activity until an active channel is detected. Press ▲ or ▼ to temporarily skip the detected channel and continue the scan. Press  once to abort the channel scan function.




### 3.7 Priority Channel Scan

Priority channels can be pre-defined through software programming. Press and hold  &  for about 0.5 second to initiate priority channel scan, as indicated by "P" and "Scan" on the LCD display. The scanning sequence is



Only pre-defined channels will be scanned for activity. When an active channel is detected, you may press  or  to temporarily skip the detected channel and move on to the next priority channel. Press  once to abort the function.





### 3.8 Monitor function

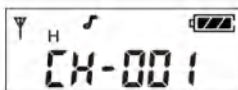
Press  to monitor weak radio signals. Press and hold  for about 2 seconds until a "beep" sound is heard to stay in monitor mode. Press  again to abort and return to Standby mode.

### 3.9 2-Tone/5-Tone Signaling

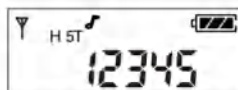
Software programming enables 2-tone / 5-tone private or selective group signaling with up to 30 pre-programmed numbers providing caller identification.

### 3.10 Call Mode ( one to one )

While in General mode, press  for about 2 seconds to enter Call mode. To place a call to a single party (e.g. "ID:54321"), select "ID:54321" using  & , press  to call and then press and hold the PTT button while speaking as in normal transmission. The called party will enter into "Open" mode for communication.




General Mode



Call Mode

### 3.11 Call Mode ( one to group )

To make a group call while in Call mode, the group must be set up through software programming. Select the group to be called (e.g. "5AAAA" where A denotes all digits) using ▲ & ▼ , press  to call and then press and hold the PTT button while speaking. The called party will enter into "Open" mode for communication.

### 3.12 Reset

Press  once to turn the called radio back to "Close" mode.





### 3.13 Emergency Call

Press and hold the Emergency button for about 2 seconds to activate or deactivate the Emergency Mode, during which a siren will be sounded without transmission (programmable) or distress signals with user ID will be transmitted to other users of the same frequency channel.


### 3.14 Radio Stun/Unstun

An administrator can send a signal to stun a radio (making it incapable for use) in the event it is stolen or used illegally. Conversely, the radio can be returned to operational use after receiving an unstun signal from the administrator.








### 3.15 Keypad Lock

Press  followed by ▲ within 0.5 second to activate keypad lock. The keypad lock icon  on the LCD display indicates that all keys are disabled except for the PTT button and . To deactivate, press  followed by ▼.

### 3.16 Programming at Menu Mode


Press and hold  for about 2 seconds to enter the Menu mode, which has the following selection sequence:

ConnP (Compander) > GrouP (Change group) > Id ANI (User ID) > SCrR (Scramble) > SQUELCH (Squelch) > Sound (Key Sound) > H-FrEE (VOX) > LONE-UU (Lone Worker) > Repeat (Repeater)



Select the menu item using  &  and then press  to confirm selection. Press  or  to choose between "ON /OFF" or "y (yes) / n (no)" and press  to confirm selection. To exit, press  once. If no selection is confirmed after 10 seconds, the radio will automatically exit the Menu mode without saving.

Note that "Repeat" is a programmable function and will only be included in the menu selection sequence if it has been preset through software programming.

### 3.17 Software Programming

Press and hold  while turning on the radio to enter the programming mode, as indicated by "-Prog-" on the LCD display. Connect the radio to the computer through the programming cable connector (via ear microphone port) and begin downloading preset data onto the radio. Upon completion, disconnect the programming cable, turn off the radio and turn on the radio again to return to normal operations.

### 3.18 Cloning

To copy the contents from one radio to another (e.g. radio A to radio B), press and hold the PTT button while switching on the source radio ("-CLON-" will be displayed on radio A), and press and hold  while switching on the receiving radio ("-Prog-" will be displayed on radio B). Connect the two radios by inserting the cloning cable into the ear microphone port of each radio. Press the  key of the source radio to initiate the copying process. After completion, disconnect the cloning cable and switch off both radios before switching them back on for the copied contents to take effect.

### 4.1 Installing/Removing a CB33 Battery Pack

- Slide the battery pack onto the radio until it is securely in place and locked.
- To remove, turn off the radio, press down the lock lever and slide the battery pack away from the radio.

### 4.2 CS33 Rapid Charger

- Insert DC plug of the adapter into the charging port of the CS33 Rapid Charger.
- Plug the adapter into the appropriate AC power outlet.
- Turn off the radio.
- Insert the radio (with battery) into the charging pocket.
- At completion, remove the radio from the charging pocket and unplug the charger from the power outlet.

## CTCSS TABLE

| No. | Frequency | No. | Frequency | No. | Frequency | No. | Frequency |
|-----|-----------|-----|-----------|-----|-----------|-----|-----------|
| 1   | 67.0      | 14  | 107.2     | 27  | 167.9     | 40  | 159.8     |
| 2   | 71.9      | 15  | 110.9     | 28  | 173.8     | 41  | 183.5     |
| 3   | 74.4      | 16  | 114.8     | 29  | 179.9     | 42  | 189.9     |
| 4   | 77.0      | 17  | 118.8     | 30  | 186.2     | 43  | 196.6     |
| 5   | 79.7      | 18  | 123.0     | 31  | 192.8     | 44  | 199.5     |
| 6   | 82.5      | 19  | 127.3     | 32  | 203.5     | 45  | 206.5     |
| 7   | 85.4      | 20  | 131.8     | 33  | 210.7     | 46  | 229.1     |
| 8   | 88.5      | 21  | 136.5     | 34  | 218.1     | 47  | 254.1     |
| 9   | 91.5      | 22  | 141.3     | 35  | 225.7     | 48  | 165.5     |
| 10  | 94.8      | 23  | 146.2     | 36  | 233.6     | 49  | 171.3     |
| 11  | 97.4      | 24  | 151.4     | 37  | 241.8     | 50  | 177.3     |
| 12  | 100.0     | 25  | 156.7     | 38  | 250.3     | 51  | 60.7      |
| 13  | 103.5     | 26  | 162.2     | 39  | 69.3      | 52  | 62.5      |

## DCS TABLE

| No. | DCS Code | No. | DCS Code | No. | DCS Code | No. | DCS Code |
|-----|----------|-----|----------|-----|----------|-----|----------|
| 1   | 023      | 28  | 172      | 55  | 431      | 82  | 743      |
| 2   | 025      | 29  | 174      | 56  | 432      | 83  | 754      |
| 3   | 026      | 30  | 205      | 57  | 445      | 84  | 053      |
| 4   | 031      | 31  | 223      | 58  | 464      | 85  | 122      |
| 5   | 032      | 32  | 226      | 59  | 465      | 86  | 036      |
| 6   | 043      | 33  | 243      | 60  | 466      | 87  | 145      |
| 7   | 047      | 34  | 244      | 61  | 503      | 88  | 212      |
| 8   | 051      | 35  | 245      | 62  | 506      | 89  | 225      |
| 9   | 054      | 36  | 251      | 63  | 516      | 90  | 246      |
| 10  | 065      | 37  | 261      | 64  | 532      | 91  | 252      |
| 11  | 071      | 38  | 263      | 65  | 546      | 92  | 255      |
| 12  | 072      | 39  | 265      | 66  | 565      | 93  | 266      |
| 13  | 073      | 40  | 271      | 67  | 606      | 94  | 274      |
| 14  | 074      | 41  | 306      | 68  | 612      | 95  | 325      |
| 15  | 114      | 42  | 311      | 69  | 624      | 96  | 332      |
| 16  | 115      | 43  | 315      | 70  | 627      | 97  | 356      |
| 17  | 116      | 44  | 331      | 71  | 631      | 98  | 446      |
| 18  | 125      | 45  | 343      | 72  | 632      | 99  | 452      |
| 19  | 131      | 46  | 346      | 73  | 654      | 100 | 454      |
| 20  | 132      | 47  | 351      | 74  | 662      | 101 | 455      |
| 21  | 134      | 48  | 364      | 75  | 664      | 102 | 462      |
| 22  | 143      | 49  | 365      | 76  | 703      | 103 | 523      |
| 23  | 152      | 50  | 371      | 77  | 712      | 104 | 526      |
| 24  | 155      | 51  | 411      | 78  | 723      |     |          |
| 25  | 156      | 52  | 412      | 79  | 731      |     |          |
| 26  | 162      | 53  | 413      | 80  | 732      |     |          |
| 27  | 165      | 54  | 423      | 81  | 734      |     |          |

| GENERAL                    | CP330V                      | CP330U      | CP330P      |
|----------------------------|-----------------------------|-------------|-------------|
| Frequency Range            | 136-174 MHz                 | 400-470 MHz | 350-390 MHz |
| Channel                    | 512 channels in 16 groups   |             |             |
| Channel Spacing            | 12,5 kHz / 25 kHz electable |             |             |
| Operating Voltage          | 7,4 VDC                     |             |             |
| Modulation                 | FM                          |             |             |
| Dimension                  | 103 x 56 x 35mm             |             |             |
| Weight (including battery) | 252 g                       |             |             |

**TRANSMITTER**

|                               |   |       |
|-------------------------------|---|-------|
| Output Power                  | 5W  | 4W    |
| Frequency Stability           | $\pm 2,5\text{ppm}$ (-30°C ~ +60°C)                                       |       |
| <b>Spurious and Harmonics</b> | 65 dB   | 60 dB |
| Hum and Noise                 | 35 dB   |       |
| Audio Distortion              | 3%  |       |
| Audio Frequency Response      | +3, -3 dB from 6 dB per Octave de-emphasis characteristic from 300-3000Hz |       |

**RECEIVER**

|                                 |                                |       |
|---------------------------------|--------------------------------|-------|
| Sensitivity (12 dB SINAD)       | 0,2 $\mu\text{V}$ (-120 dBm)   |       |
| Squelch Sensitivity (Threshold) | 0,158 $\mu\text{V}$ (-123 dBm) |       |
| Selectivity                     | 70 dB                          | 75 dB |
| Intermodulation Rejection       | 60 dB                          | 65 dB |
| Spurious and Image Rejection    | 70 dB                          |       |
| Audio Output Power              | 1 W, 16 $\Omega$               |       |